Healthcare resource utilisation and costs of endometrial cancer in France from 2016 to 2021 (MOONBEAM Study)

Digital poster

SCAN ME

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Background

- Worldwide, estimates indicate that 420,368 new cases of EC were diagnosed in 2022, with an associated 97,723 deaths.[1]
- EC is the fifth most common cancer in women in France, occurring mainly after menopause at a median age at diagnosis of 68 years.[2]
  - In 2018, approximately 8224 patients were diagnosed with EC and 2415 deaths occurred.[3]
- Real-world data investigating HCRU in patients with EC in France are limited.

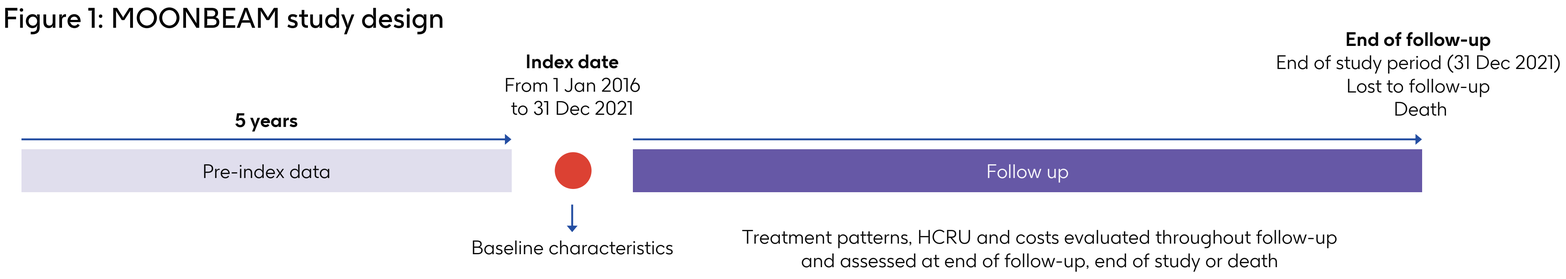
Aims

- To better understand the management of patients with EC in France, the MOONBEAM study evaluated the epidemiology and treatment patterns of patients with EC from 2016 to 2021.
- In this analysis of data from the MOONBEAM study, HCRU and associated medical costs were evaluated for patients with EC living in France.

Study design and methods

- MOONBEAM is a retrospective cohort study of patients with EC identified in the French national health insurance database '*Système National des Données de Santé*' (SNDS) from 2016 to 2021 (**Figure 1**).
  - The SNDS is an administrative healthcare database that covers ~99% of the French population, including reimbursement data from compulsory health insurance schemes and hospital data from the PMSI (*Programme de Médicalisation des Systèmes d'Information*).[4–6]
- All women identified in the database had at least one inpatient stay or long-term disease for an ICD-10 code (C54) for EC during the study period.
- The incident metastatic and/or recurrent real-world EC population included patients with initial metastatic EC plus patients with recurrent EC.
  - As this study started before immunotherapies were SoC in France, this population was designed to align with the primary advanced or first recurrent EC population recruited in the pivotal trial for the anti-PD-1 agent dostarlimab in combination with chemotherapy (NCT03981796, RUBY trial).[7]
- The index date was defined as the date of first metastatic EC diagnosis or, for recurrent EC, the date of first treatment after surgery or a ≥6-month treatment gap. Patients were followed up until death, lost to follow-up, or end of the study (31 December 2021), whichever occurred first.
- Treatment patterns were described from the index date to end of follow-up, and included surgical procedures, radiotherapy, chemotherapy, hormonal therapy and immunotherapy.
- The MOONBEAM study estimated the real-world economic burden associated with initial metastatic and/or recurrent EC management. The results were included in a medico-economic model submitted to the *Haute Autorité de santé* (HAS), the French health technology assessment body.
- Direct costs were calculated, including consultations, examinations, treatments (such as surgery, radiotherapy, chemotherapy or hormone therapy) and hospitalisations (for EC management and care for adverse events) and compared with the estimated costs from the HAS recommendations.
- The HAS method calculates costs for hospitalisations using the associated costs for diagnostic codes via the National Cost Study or GHS rates, and for medical visits using values reimbursed by health insurance for each specialist; the National Biology Table defines the cost of each test.
- Costs of laboratory tests were multiplied by 10 when calculated according to the HAS method.
- All costs have been adjusted to 2024 based on the INSEE consumer price index.[8]

Figure 1: MOONBEAM study design



Results

Baseline characteristics

- Overall, 23,060 patients with initial metastatic and/or recurrent EC were identified in the SNDS (**Table 1**).
- Approximately 50% had previous cancer, mostly breast or gynaecological. Median age was 71 years, and median follow-up was 1.2 years. 48.8% of the patients with initial metastatic and/or recurrent EC died during follow-up.

Table 1: Baseline characteristics

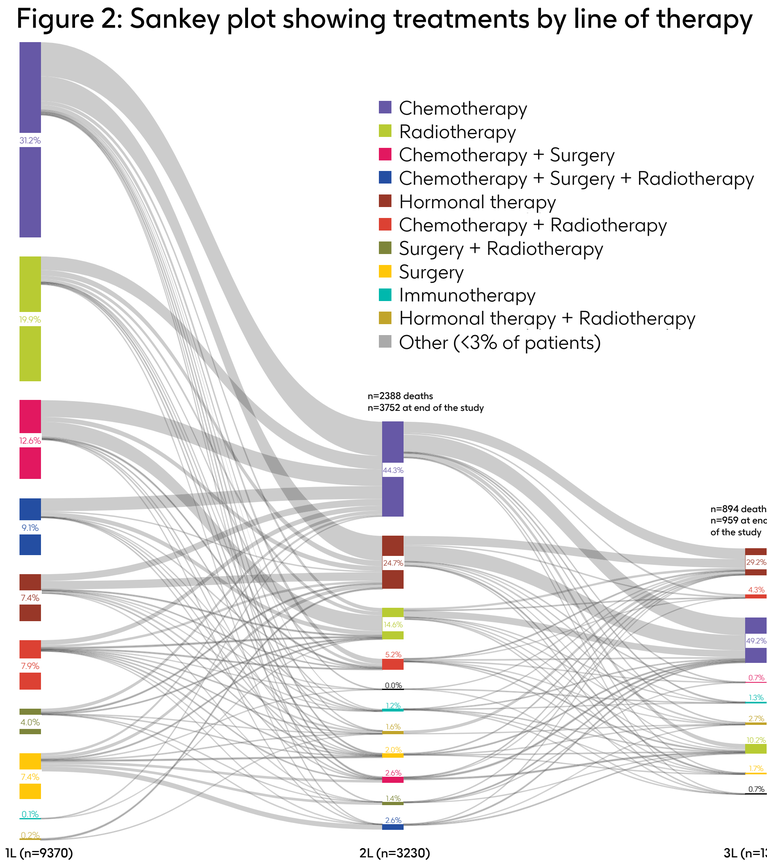
Incident population n (%)	Initial metastatic and/or recurrent: Overall N=23,060	Initial metastatic and/or recurrent: No prior active cancer n=11,834
Sociodemographic characteristics		
Age – mean (SD)	70 (11.3)	71 (10.9)
Age – median (Q1–Q3)	71 (63; 78)	71 (64; 79)
Follow-up characteristics		
Follow-up duration, years – median (Q1–Q3)	1.2 (0.4; 2.6)	1.7 (1.6)†
Cause of end of follow-up		
Death	11,244 (48.8)	5810 (49.1)
End of follow-up	11,623 (50.4)	5906 (49.9)
Loss to follow-up	193 (0.8)	118 (1.0)
Comorbidities		
Diabetes	4417 (17.9)	2290 (19.4)
Morbid obesity	4774 (19.3)	2253 (19.0)
Cardiovascular pathology	3413 (13.8)	1699 (14.4)
Venous thromboembolism	1744 (7.1)	737 (6.2)
Lynch syndrome	66 (0.3)	15 (0.1)
Prior active cancer‡	11,226 (48.7)	–
History of cancer		
Breast or gynaecological	9359 (40.6)	1108 (9.4)
Cancer other than breast or gynaecological	4971 (21.6)	640 (5.4)

†Follow-up duration reported as mean (SD); ‡Within 5 years prior to index date.

Treatment patterns

- Chemotherapy alone was the preferred treatment in the 1L setting for patients with initial metastatic and/or recurrent EC without prior active cancer (31.2%; **Figure 2**).
- Radiotherapy alone and surgery + chemotherapy were also frequently used 1L treatments.
- The most frequent 2L treatment was chemotherapy alone (44.3%).
- Hormonal therapy was more frequent in 2L than in 1L.

Figure 2: Sankey plot showing treatments by line of therapy



Healthcare resource utilisation and costs

- The costs of medical consultations were of the same order of magnitude as HAS, with end-of-life and chemotherapy costs retaining the highest amount (**Table 2**).

Table 2: Costs per treatment strategy for the MOONBEAM study and HAS reference (unitary costs)

Treatment strategy	Cost: SNDS (€2024)	Cost: HAS (€2024)
Chemotherapy (cycle)	800.41	1237.07
End of life	7326.65	6628.69
General practitioner†	33.05	26.87
Medical oncologist†	40.40	32.26
Radiologist†	38.51	36.25
Biology‡	3.51	32.64

†Assessed per visit. ‡Assessed per test set.

- There were disparities in hospitalisation costs for adverse events, which are generally underestimated by HAS.
  - SNDS data showed that costs for hypertension, asthenia and abdominal pain were around four-times higher than HAS estimates (**Table 3**).

Table 3: Hospitalisation costs for adverse events for the MOONBEAM study and HAS reference (unitary costs)

Adverse event	Cost: SNDS (€2024)	Cost: HAS (€2024)
Anaemia	3075.86	1609.31
Asthenia	4417.22	1181.68
Increased lipase	987.84	690.29
Decreased lymphocytes	3650.59	3318.70
Abdominal pain	2545.88	556.08
Pulmonary embolism	4810.23	3313.49
Hypertension	4192.03	942.91
Hypokalaemia	3265.19	1565.97
Urinary tract infection	4527.53	3067.37

Conclusions

The MOONBEAM study showed that the most common treatment patterns for the initial metastatic and/or recurrent EC population in France followed latest European guidelines (ESGO/ESTRO/ESP and ESMO).[9,10]

There was a wide disparity in the cost of hospitalisation between the MOONBEAM study and HAS estimates.
- This may be because the MOONBEAM real-world estimates are population-specific, whereas the HAS estimates are dependent only on the reason for hospitalisation, not on population profiles.
- Neither the length of hospitalisation nor the severity of complications are determinants in the HAS estimations.

These results demonstrate the importance of using population-specific real-world data, whenever possible.

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Conflicts of interest/disclosures

A.S., H.D. and C.V. are employed by HEVA and their participation in this study was sponsored by GSK. E.A., L.G., G.N. and C.L. are employed by GSK and hold financial equities in GSK. T.M.R., J.C., G.L. and F.J. have no conflicts to declare.

Abbreviations

1L, first line; 2L, second line; 3L, third line; EC, endometrial cancer; ESGO, European Society for Gynaecological Oncology; ESMO, European Society for Medical Oncology; ESP, European Society of Pathology; ESTRO, European Society for Radiotherapy and Oncology; GHS, Groupe Homogène de Séjours; HAS, *Haute Autorité de Santé*; HCRU, healthcare resource utilisation; ICD-10, International Classification of Diseases, Tenth Revision; INSEE, French National Institute for Statistics and Economic Studies; MDPH, *Maisons départementales des personnes handicapées*; PD-1, programmed cell death protein 1; PMSI, *Programme de Médicalisation des Systèmes d'Information*; Q, quartile; SD, standard deviation; SNDS, *Système National des Données de Santé*; SoC, standard of care.

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